Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Facilitating the Communications of Earth	)	IB Docket No. 18-315
Stations in Motion with Non-Geostationary	)	
Orbit Space Stations	)	

To: The Commission

REPLY COMMENTS OF
THE BOEING COMPANY

The parties filing comments in this proceeding were uniform in supporting the operation of earth stations in motion ("ESIMs") with non-geostationary satellite orbit ("NGSO") satellites in each of the frequency bands identified in the *NPRM*.[1] Most parties also recommended that the Commission authorize NGSO systems to support ESIMs in additional frequency bands including the 10.7-11.7 GHz band,[2] 12.2-12.7 GHz band,[3] additional portions of the 27.5-30 GHz band,[4] and throughout the V-band.[5] Given the substantial public interest benefits that are already being produced by ESIMs, Boeing supports each of these proposals.

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[1] *See* Facilitating the Communications of Earth Stations in Motion with Non-Geostationary Orbit Space Stations, *Notice of Proposed Rulemaking*, FCC 18-160 (Nov. 16, 2018) ("*NPRM*").

[2] *See Comments of Kepler Communications Inc.*, IB Docket No. 18-315 at 2 (Feb. 11, 2019).

[3] *See Comments of Worldvu Satellites Limited*, IB Docket No. 18-315 at 1-7 (Feb. 11, 2019).

[4] *See Comments of Viasat, Inc.*, IB Docket No. 18-315 at 7-8 (Feb. 11, 2019).

[5] *See Comments of SES Americom, Inc. and O3B Limited*, IB Docket No. 18-315 at 9 (Feb. 11, 2019); *Comments of The Boeing Company*, IB Docket No. 18-315 at 11-12 (Feb. 11, 2019).

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ESIMs can provide important broadband communications services to consumers on mobile platforms that were previously unserved by wireless broadband communications services. Further, as decades of operational experience have demonstrated, ESIMs can operate with satellites in the fixed-satellite service ("FSS") without resulting in any additional interference into co-frequency spectrum users as compared to FSS earth stations operating at fixed locations. Therefore, the Commission should authorize ESIMs as a permissible NGSO FSS application in every frequency allocation that has been made available for NGSO FSS operations using the same spectrum sharing rules that exist for NGSO FSS licensees.

The Commission has long applied this approach to various types of ESIMs. For example, when the Commission first authorized Vehicle-Mounted Earth Stations ("VMES"), it did so by defining VMES "as a primary application of the Fixed Satellite Service ("FSS")."[6] Thus, the Commission appropriately treats ESIMs not as a separate service, but as a permitted application of FSS, employing the same frequency allocation and protection rights as FSS.

For this reason, Boeing opposes the regulatory overreach of Echostar with respect to the appropriate regulatory treatment of ESIMs operating in the 18.8-19.3 GHz and the 28.6-29.1 GHz bands.[7] As Echostar acknowledges, these paired spectrum bands constitute one of the very few FSS allocations where NGSO FSS systems have priority over geostationary ("GSO") FSS

[6] *See* Amendment of Parts 2 and 25 of the Commission's Rules to Allocate Spectrum and Adopt Service Rules and Procedures to Govern the Use of Vehicle-Mounted Earth Stations in Certain Frequency Bands Allocated to the Fixed-Satellite Service, IB Docket No. 07-101, *Report and Order*, FCC 09-64, 24 FCC Rcd 10414 (2009).

[7] *See Comments of Echostar Satellite Operating Corporation and Hughes Network Systems, LLC,* IB Docket No. 18-315 at 4 (Feb. 11, 2019) ("*Echostar Comments*").

networks.[8] Despite this fact, Echostar urges the Commission to treat ESIMs operating with NGSO FSS systems as co-equal with GSO FSS networks in this spectrum.[9]

Echostar does not explain how its proposal for co-equal status would work. Presumably, however, Echostar's existing Ka-band GSO FSS operations would have first-in-time priority over ESIMs operating with NGSO FSS systems given the fact that ESIMs are not yet authorized in this spectrum. Such a reversal of the regulatory hierarchy is entirely unwarranted. As the Commission recently explained, "limiting the primary designation in these bands to NGSO FSS systems will give operators of these systems greater flexibility in the coordination discussions and ultimate deployment."[10]

Echostar nevertheless claims that such treatment is warranted because the Commission has made GSO FSS networks secondary to NGSO FSS systems only to the extent that NGSO FSS systems are operating "with fixed earth stations."[11] Echostar cites a portion of a recent Commission order to support this contention, but the referenced order provide no support for Echostar's claim.[12] Instead, the Commission's language suggests just the opposite, explaining that "[w]e believe that preserving the 18.8-19.3 GHz and 28.6-29.1 GHz bands *for more intensive use* by burgeoning NGSO FSS systems will serve the public interest."[13]

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[8] *See id.*

[9] *See id.*

[10] Update to Parts 2 and 25 Concerning Non-Geostationary, Fixed-Satellite Service Systems and Related Matters*, Report and Order and Further Notice of Proposed Rulemaking*, 32 FCC Rcd 7809, 7814-15, ¶ 14 (2017) ("*NGSO FSS Sharing Order*").

[11] *Echostar Comments* at 4.

[12] *See id.* (*citing NGSO FSS Sharing Order*, ¶¶ 14-16).

[13] *NGSO FSS Sharing Order*, ¶ 14 (*emphasis added*).

Echostar also argues that such treatment is necessary because Echostar has already coordinated its secondary operations with "several" NGSO FSS systems in this spectrum.[14] Echostar does not identify these NGSO FSS systems by name. As the *NPRM* observes, however, only one NGSO FSS systems—O3b Limited— is currently using this spectrum in the United States[15] and O3b has long had authority to operate with maritime ESIMs.[16] Therefore, Echostar's coordination agreement with O3b presumably addresses these ESIM operations.

In any event, Echostar's private agreements with certain NGSO FSS operators cannot be permitted to overrule Commission policy or prejudice the rights of future NGSO FSS systems. Echostar raised similar issues with the Commission previously and the Commission made its policy abundantly clear in explaining that "[t]he status of GSO FSS operations in these bands is secondary" and "[t]hey are entitled to no protection from any interference caused by NGSO FSS systems."[17] Echostar has provided no justification for reversing Commission policy on the regulatory status of NGSO FSS systems in the 18.8-19.3 GHz and 28.6-29.1 GHz bands and therefore the Commission should refrain from doing so in this proceeding.

CONCLUSION

The Commission should continue to promote the growth of NGSO FSS systems by authorizing the operation of ESIMs with NGSO FSS systems in each of the frequency bands

[14] *Echostar Comments* at 4.

[15] *See NPRM*, ¶ 6.

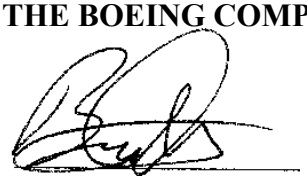
[16] *See* O3b Limited Radio Station Authorization, IBFS File No. SES-LIC-20130528-00455 (granted May 13, 2014) (providing a blanket earth station license for communications with 100 maritime vessels).

[17] *NGSO FSS Sharing Order*, ¶ 14.

identified in the *NPRM* and also in each of the additional FSS allocations identified by commenting parties as available for NGSO FSS systems. In each case, the Commission should designate ESIMs as an authorized application of the NGSO FSS service with the same protection rights and subject to the spectrum sharing rules that exist for NGSO FSS systems in each frequency band.

Respectfully submitted,

THE BOEING COMPANY

By: 

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